

Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: FAIL-SAFE

Report Number: P590846

Luminaire Tested: FSR-24-2-LD4-4LO-40-UNV-81-85-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590846
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-1)
Test Lab: INNOVATION CENTER
Issue Date: 12/8/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: FSR-24-2-LD4-4LO-40-UNV-81-85-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5481.0 lumens
Efficiency: N/A
Efficacy: 117.1 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

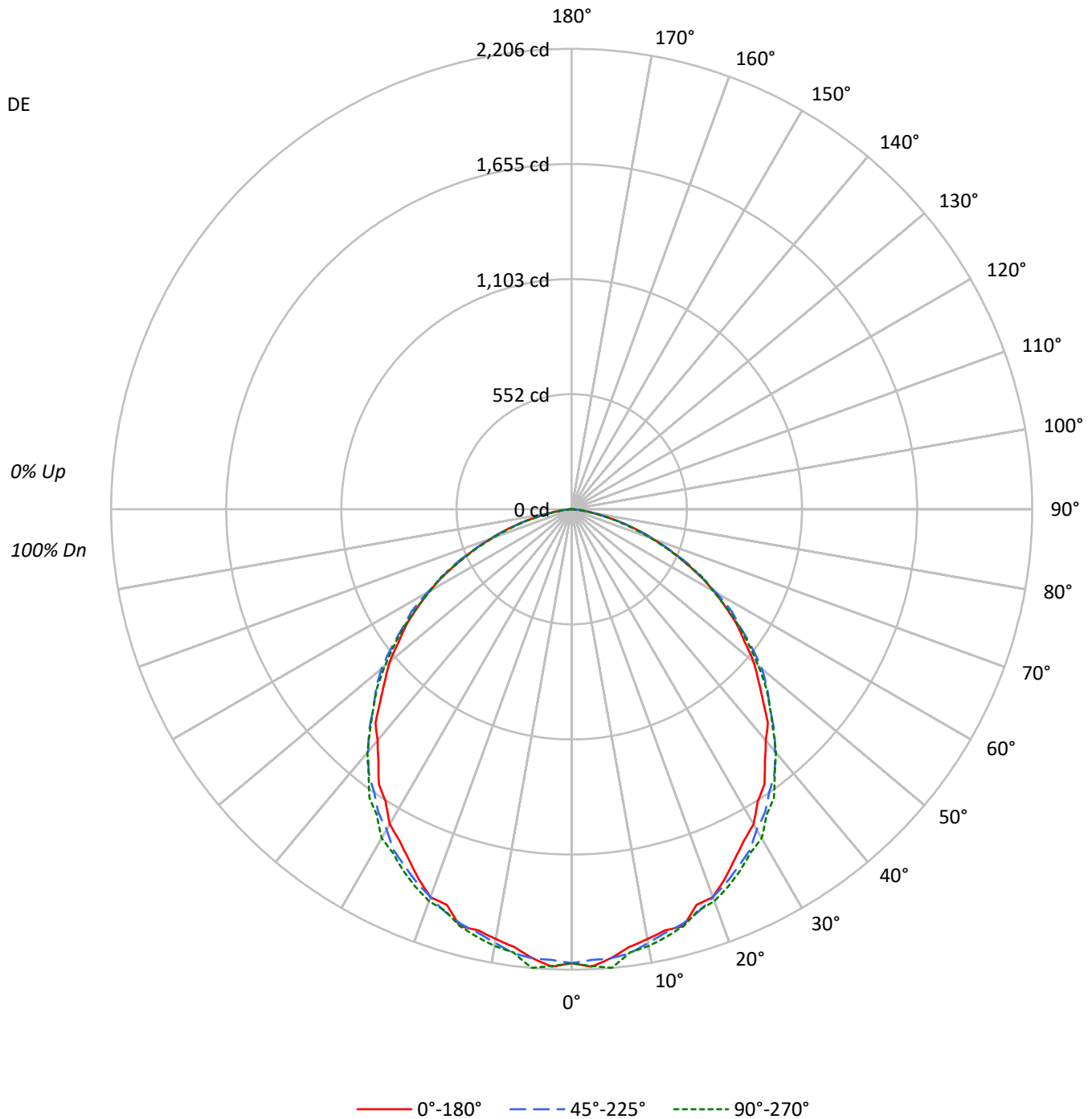
Input Watts (W): 46.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									20									
RC	80									70									50									30									10									0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0																
RCR																																														
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100									100																			
1	110	105	101	98	107	103	100	96	99	96	93	95	93	90	91	90	88	86									86																			
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	73									73																			
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62									62																			
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55	53									53																			
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46									46																			
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41									41																			
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36									36																			
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32									32																			
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29									29																			
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26									26																			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5852	5852	5852
5°	5833	5835	5958
10°	5714	5764	5805
15°	5760	5728	5760
20°	5662	5662	5723
25°	5488	5608	5670
30°	5413	5508	5655
35°	5285	5424	5546
40°	5080	5324	5348
45°	4926	5101	5109
50°	4764	4979	4884
55°	4540	4628	4595
60°	4245	4287	4210
65°	3785	3882	3758
70°	3248	3259	3168
75°	2572	2566	2467
80°	1723	1675	1610
85°	936	926	868

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 5233 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	204.6	3.7
10°-20°	579.8	10.6
20°-30°	868.6	15.8
30°-40°	1029.5	18.8
40°-50°	1031.4	18.8
50°-60°	875.5	16.0
60°-70°	590.2	10.8
70°-80°	259.4	4.7
80°-90°	42.1	0.8
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	1652.9	30.2
0°-40°	2682.4	48.9
0°-60°	4589.2	83.7
0°-90°	5481.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5481.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2175	2175	2175	2175	2175	
5°	2159	2154	2160	2154	2206	204
15°	2068	2044	2056	2067	2068	576
25°	1848	1859	1889	1914	1910	855
35°	1609	1614	1651	1689	1688	999
45°	1294	1319	1340	1375	1342	1001
55°	968	961	986	980	979	861
65°	594	587	610	586	590	591
75°	247	242	247	229	237	265
85°	30	30	30	29	28	44
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2174.7	2174.7	2174.7	2174.7	2174.7
2.5°	2193.5	2177.0	2161.5	2179.5	2190.4
5°	2159.3	2154.2	2160.1	2153.7	2205.6
7.5°	2114.9	2134.3	2145.5	2138.5	2141.6
10°	2091.3	2084.6	2109.6	2127.0	2124.5
12.5°	2066.1	2076.2	2077.6	2096.4	2098.1
15°	2067.5	2043.6	2056.2	2066.9	2067.7
17.5°	1987.2	2013.0	2021.7	2046.1	2015.8
20°	1977.3	1958.5	1977.3	2002.3	1998.4
22.5°	1917.0	1895.9	1936.3	1958.5	1957.1
25°	1848.4	1858.6	1888.9	1913.6	1909.7
27.5°	1788.4	1800.1	1843.4	1877.4	1855.5
30°	1742.0	1736.1	1772.6	1803.0	1819.8
32.5°	1659.2	1680.5	1723.2	1753.3	1737.3
35°	1608.9	1613.7	1651.0	1689.2	1688.1
37.5°	1521.0	1543.2	1595.7	1606.4	1596.6
40°	1446.1	1468.3	1515.7	1527.2	1522.4
42.5°	1390.8	1394.7	1435.4	1448.6	1427.5
45°	1294.4	1318.6	1340.5	1375.0	1342.5
47.5°	1212.5	1223.7	1270.9	1280.1	1263.0
50°	1138.0	1142.0	1189.4	1177.9	1166.7
52.5°	1044.5	1061.1	1087.8	1085.5	1072.3
55°	967.6	961.1	986.4	979.7	979.4
57.5°	875.2	886.5	907.2	896.6	879.4
60°	788.7	789.0	796.6	784.5	782.3
62.5°	692.4	695.8	697.5	682.6	706.7
65°	594.4	586.6	609.6	586.3	590.2
67.5°	504.3	508.2	506.0	491.4	497.0
70°	412.8	417.8	414.2	397.6	402.7
72.5°	329.1	322.9	326.8	306.1	315.6
75°	247.4	242.3	246.8	229.4	237.3
77.5°	168.5	172.4	169.6	160.3	165.7
80°	111.2	108.1	108.1	102.8	103.9
82.5°	64.9	61.8	60.9	59.2	61.8
85°	30.3	29.5	30.0	29.2	28.1
87.5°	11.0	11.2	11.2	10.7	10.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)